



Dietary Supplements: A Review

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Abstract

Dietary Supplements, are another way to fulfill needs that are required to maintain the proper functioning of the body. These products are mostly consumed by the youngsters throughout the world. These are very helpful in the muscle growth and during any kind deficiency of nutrients in the human body. Due to such amazing use and helpfulness of these, they are in very high demand in the market. Thus this market is expected to gain a speedy growth in the upcoming years.

Keywords: Dietary Pattern; Physical Activity; Protein Supplement

Introduction

Protein, one of major nutrients essential for the human body to keep itself healthy and sustain a normal healthy lifestyle. Proteins, Vitamins and Minerals are essential that help in the development and better functioning of the body. Most of people get all the nutrients in proper amount as required by the body but some of them are not able to do so and thus need a little extra nutrient boost. That's where supplements come in, in aim to provide you with support your body needs to stay healthy [1].

Research Methods

Electronic search has been carried out using the databases viz. Google, Google Scholar, PubMed for the study. The search will be restricted for a period of 19 years ranging from 2000-2019.

Findings

What Are Dietary Supplements?

These are products that contains vitamins, proteins, minerals, botanical or herbal ingredients, amino acids (the building blocks of proteins) and enzymes. Supplements products are formed in various forms. They are available in capsules, powder, tablets and in liquid form as well [2].

The use of dietary supplements is widespread in every country; consisting not only the athletes but also the general population and the military personnel in order to increase their efficiency of doing hard work. A wide range of supplements are available in the market, but protein contained products are in most common. Especially the youths are more attracted towards this kind of product, aiming to have a better body configuration [3].

Dietary Supplement's Consumer Group

1. Children, scholars in order to increase their performance in academics, and in other activities.
2. Supplements are at a very high demand by the bodybuilders.
3. Best requirement for pregnant women and during the lactation for the mothers.
4. Especially required for those who have some kind of deficiency in a particular or no. of nutrients.

Source of Supplements: Sometimes the dietary supplements may also contain some type of contents that are not confirmed for being essential for life, but may a positive biological effect, like some of the plant's pigments or polyphenols. Animals are another option for the ingredients of supplements, like collagen from chicken or fish. "The European Commission has also established harmonized

rules to help ensure that food supplements are safe and appropriately labeled [4].

Us Industry of Dietary Supplements: "In 2020, the US market of dietary supplements was valued at \$140.3 billion [5]. A 2020 analysis projected that the global market for vitamins and dietary supplements products would reach \$196.6 billion by 2028, where the growth in market size is largely attributed to recent technological advancements in product manufacturing, increased demand for product advertised healthy, increased product availability and population aging".

Adverse Effects of Dietary Supplements: As supplements are considered as a bank of energy; like proteins, vitamin, etc., but also contains a no. of side effects on the body. "In US, a numerous adverse effect, including muscle cramps, hair loss, joint pain, liver problems, allergic reactions with 29% of the adverse effects resulting in hospitalization, and 20% in serious injuries or illness, have been reported" [6]. "Consumer Reports also reported unsafe levels of arsenic, cadmium, lead and mercury in a lot of protein supplements" [7]. In a genetic analysis, 78% of the herbal supplements were found to contain animal DNA that was not identified on the product label [8].

Benefits of Dietary Supplements

- Usually, we get all the nutrients that we are supposed to have from a balanced diet.
- These supplements provide extra nutrients if we are lacking in our diet somewhere.
- Individual nutrients are also available, and these supplements are helpful in deficiency of any particular diseases.
- They are used to treat iron deficiency and also reduce the risk of a medical condition, such as hypertension [9].
- "High doses of vitamin B3(niacin) can help raise "good" high- density lipoprotein (HDL) cholesterol." [10].
- "Antioxidants like Vitamin C and vitamin E, may reduce the toxic effect of chemotherapy drugs" [11].

Role of Dietician/ Fitness Instructor

In every new learning, there should be a teacher at first who gives us a right way to follow. Similarly for a person who is going to consume these supplements, there should be a fitness instructor who can identify the need of consumer and provide him the supplements which is better for his body and health.

Supplement Market in India

The Indian dietary supplement market had a strong growth during 2015-2020. As per the expectations of IMARC

Group, this market is supposed to grow at a CAGR of around 18% during 2021-2026 [12].

Quality and Safety

Quality and safety always go hand in hand. Therefore, it is necessary for every supplement manufacturing company to assure that its product should fulfill all the parameters like as quality, purity, ingredients used, high bioavailability and toxicological safety. "All manufacturers must be accredited by ISO 22000 FSMS for food safety in addition to GMP certification to assess the standards of quality management systems & the safe practices of goods manufacturing [13,14].

Conclusion

Physical activity is good for health. Protein supplement is required for the body development and growth.

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